



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,495	07/22/2002	Michael C. Murray	08CE7421-1	4852

23413 7590 07/14/2004

CANTOR COLBURN, LLP
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

VIJAYAKUMAR, KALLAMBELLA M

ART UNIT	PAPER NUMBER
----------	--------------

1751

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/064,495

Applicant(s)

MURRAY, MICHAEL C.

Examiner

Kallambella Vijayakumar

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5-sheets.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Detailed Action

- Claims 1-19 are currently pending with the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- Claims 1, 2, 4-8, 13-17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueda et al (US 6,083,428).

Ueda et al teach flame-retardant compositions comprising of (A). 100 parts of a preferred thermoplastic of polycarbonate or its blend, (B). 0.1-30 parts by wt organic phosphorus compound flame retardant such as triaryl phosphate esters per 100 parts of Resin-(A), (C). 0.1-10 parts by weight of rubbery polymer such as acryl-silicone rubbers comprising 10-90 wt% organopolysiloxane and 90-10 wt% polyalkyl/acrylate/methacrylate, as impact modifier, and (D). 5-55 parts by wt of fillers such as carbon fibers per 100 parts of Resin-(A), wherein conductive carbon fibers would inherently meet the limitation of anti-static/conductive

agent/filler in claims 1 and 4. The polycarbonate composite polymers had a UL-94 flammability rating of V-0 that would meet the limitations of instant claims 14-17 and conductivity of carbon containing polycarbonate would be inherent. Ueda et al further disclose a method of making the composite resin by extrusion that would meet the limitations of instant claim-19. (Abstract; Col-3, Lines: 30-33; Col-7, Lines: 1-12; Col-10, Lines: 1-35, Col-10, line-60 to Col-11, Line-16, Col-12, Line-51, Col-20, Table-7, Col-21-22, Tables: 9-12).

"[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated' if one of them is in the prior art." Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). MPEP 2131.03.

All the limitations of the instant claims are met.

The reference is anticipatory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataoka (JP 11-199,767) in view of Kawahigashi et al (JP 11-181,267) or Campbell et al (US 6,221,939) or Willaim et al (GB 2 043083).
- (a). Kataoka discloses a flame-retardant/antistatic-resin composition comprising of: (A). 50-80% aromatic polycarbonate, (B). 4.5-15% polyetheresteramide (antistatic agent), (C). 3-12% phosphoric ester (flame-retardant), (D) 1-25% inorganic fillers, (E) 0.5-8 % rubbery polymer (impact modifier) and (F). 0.05-1.5 % PTFE, the polycarbonate composite resins exhibiting a V-0 rating for flammability in the UL-94 protocol. (Abstract, Sections:0002, 0011, 0025, Table-1).
- (b). Kataoka discloses all composition of the polycarbonate-composite-polymers having the components in appropriate ratios per the limitations of the instant claims except for the use of polysiloxanes as impact modifier and addition other optional flame retardants in to the composition meeting the limitations of instant claims by the applicants.
- (c). In the analogous art, Kawahigashi et al disclose a flame-retardant composition having anti-static properties comprising of (A). Polycarbonate resin and titania filler (flame retardant) in the range of (70:30) to (90:10), (B). 1-8 parts by wt of alkylbenzene sulfonic acid

as anti-static agent, (C). 100-3000 ppm wt phosphorus based anti-oxidant and (D) 0.01-5 pt by wt of organopolysiloxane (impact modifier) and teach the benefits of adding the organopolysiloxane in the composition (Abstract).

(d). In the analogous art, Campbell et al teach the composition of flame-resistant composition comprising of thermoplastics such as polycarbonate, a phosphoramidate, organic phosphate esters such as bisphenol-based phosphate esters, resorcinol-based phosphate esters, alkyl/aryl phosphate esters known in the art in the amounts of 0.1-5 parts per 100 parts resin, and 1-50 parts of phosphoramidate and phosphorus ester combined together per 100 parts of resin functioning as flame retardants. Campbell et al also teach mixing of the components and melt processing of the composite including extrusion process (Abstract, Col-3, Lines: 26-47, Col-6, Line-28 to Col-8, Line-53, Col-12, Lines: 1-58, Col-13, line-1 to Col-14, Line-37).

(e). In the analogous art, William et al teach the use of various organo-phosphorus flame retardants in the formulation of thermoplastic based flame-retardant compositions, the flame retardants included bi and poly-functional phosphate esters and triphenyl phosphate in the amounts of 1-30 parts by wt of thermoplastic resin/polymer used. The claims 1-4 of William et al recite phenyl based bisphenol-A bisphosphate as the flame retardant that would meet the limitations of instant claims 9, 11-12 and 18 (Abstract, page-1, Line-44-Page-2, Line-48; Page-3, Lines: 37-41; Pages-4-7, Table-1-4, Claims-1-4).

(f). It would have been obvious to one with ordinary skill in the art to improve the polycarbonate based anti-static/flame-retardant compositions of Kataoka by optionally substituting the rubbery polymer with polysiloxane per the teachings of Kawahigashi et al to benefit from improved resistance to the oxidation and elastic properties, because both the

disclosures are in the analogous art of antistatic/flame-retardant compositions based on polycarbonate, and further improve the flammability rating of the polycarbonate-composite by optionally including phosphoramides and organic phosphates known in the art per the teachings of Campbell et al, because Campbell et al teach these aspects and suggestive of further such modifications in the related art pertinent to the invention, and/or further improvise the composition by optionally substituting the phosphoric acid esters with other bi/poyfunctional-phosphate esters per the teachings of Willaim et al to benefit from improved flammability rating along with permanent anti-static properties, because William teach these modifications for thermoplastic resins in the art pertinent to the invention, and with the expectation of reasonable success in obviously arriving at the limitations of instant claims by the applicants.

2. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al (US 6,083,428) in view of Kataoka (JP 11-199,767) or Campbell et al (US 6,221,939) or Willaim et al (GB 2 043083).

(a). The disclosure on the composition, properties and making of polycarbonate based anti-static/flame retardant compositions by Ueda et al is set forth as above under Rejection-1 under 35 USC 102(b).

(b). Ueda et al disclose all the components of the polymer composition in appropriate ratios per the limitations of the instant claims except the addition of phosphoramides, organic anti-static agents and specific organo phosphate ester flame retardants in the composition.

©. Kataoka discloses a flame retardant antistatic resin composition comprising of: (A). 50-80% aromatic polycarbonate, (B). 4.5-15% polyetheresteramide (antistatic), (C). 3-12% phosphoric ester (flame-retardant), (D) 1-25% fillers, (E) 0.5-8 % rubbery polymer (impact modifier) and (F). 0.05-1.5 % PTFE, the resins exhibiting V-0 rating for flammability in the UL-94 protocol. (Abstract, Sections:0002, 0011, 0025, Table-1).

(d). In the analogous art, Campbell et al teach the composition of flame-resistant composition comprising of thermoplastics such as polycarbonate, a phosphoramidate, organic phosphate esters such as bisphenol-based phosphate esters, resorcinol-based phosphate esters, alkyl/aryl phosphate esters known in the art in the amounts of 0.1-5 parts per 100 parts resin, and 1-50 parts of phosphoramidate and phosphorus ester combined together per 100 parts of resin functioning as flame retardants. Campbell et al also teach mixing of the components and melt processing of the composite including extrusion process (Abstract, Col-3, Lines: 26-47, Col-6, Line-28 to Col-8, Line-53, Col-12, Lines: 1-58, Col-13, line-1 to Col-14, Line-37).

(e). In the pertinent art, William et al teach the use of various flame retardants in the formulation of thermoplastic based flame-retardant compositions comprising of bi and poly-functional phosphate esters including triphenyl phosphate in the amounts of 1-30 parts by wt of thermoplastic used. The claims 1-4 recite phenyl based bisphenol-A bisphosphate as the flame retardant that would meet the limitations of instant claims 9, 11-12 and 18 (Abstract, page-1, Line-44-Page-2, Line-48; Page-3, Lines: 37-41; Pages-4-7, Table-1-4, Claims-1-4).

(f). It would have been obvious to one with ordinary skill in the art to improve the polycarbonate based anti-static/flame-retardant composition of Ueda et al by optionally substituting carbon fibers with and/or including polyetheresteramide antistatic agent per the

teachings of Kataoka to improve the antistatic property of the composite while still retaining flex/elastic-properties, because Kataoka teaches these aspects in analogous art and Ueda is suggestive of such addition and both the teachings are in the analogous art; and further improve the flammability rating of the polycarbonate-composite by optionally including phosphoramides and organic phosphates known in the art per the teachings of Campbell et al, because Campbell et al teach these aspects and suggestive of further such modifications in the related art pertinent to the invention, and/or further improvise the composition by optionally substituting the phosphoric acid esters with other bi/polyfunctional-phosphate esters per the teachings of William et al to benefit from improved flammability rating along with permanent anti-static properties, because William teach these modifications for thermoplastic resins in the art pertinent to the invention, and with the expectation of reasonable success in obviously arriving at the limitations of instant claims by the applicants.

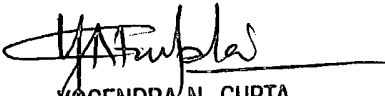
Conclusion

- The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nodera et al (US 5,837,757), Itagaki (US 2002/0077417).
- Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324.

The examiner can normally be reached on M-Th, 07.00 - 16.30 hrs, Alt. Fri: 07.00-15.30 hrs.

Art Unit: 1751

- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


YOGENDRA N. GUPTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Kmv
July 12, 2004